

CLAIMS:

1. A ladder comprising
a foldable frame including a first leg unit and a second leg unit, the
first and second leg units being arranged to move relative to one another between
5 folded and unfolded positions,
means for spreading the leg units away from one another to the
unfolded position, and
means for biasing the leg units toward one another to stiffen the frame
in response to spreading of the leg units away from one another to the unfolded
10 position by the spreading means.
2. The ladder of claim 1, wherein the biasing means includes an X-
shaped leg brace including a cable coupled to each leg unit.
3. The ladder of claim 1, wherein the biasing means includes an X-
shaped leg brace including a first cable coupled to the first leg unit and a second
15 cable coupled to the second leg unit.
4. The ladder of claim 3, wherein each leg unit includes a pair of legs,
the first cable is coupled to the legs of the first leg unit, the second cable is coupled to
the legs of the second leg unit, and the leg brace includes a cable connector coupled to
a middle portion of each cable.
- 20 5. The ladder of claim 1, wherein each leg unit includes a pair of legs
and the spreading means includes an overcenter linkage coupled to one of the legs of
each leg unit to lock the leg units in the unfolded position.
6. The ladder of claim 1, wherein the spreading means includes a step
coupled to the first leg unit for pivotable movement and a link coupled to the step and
25 the second leg unit to cause relative pivotable movement of the leg units upon
pivotable movement of the step.
7. A ladder comprising
a foldable frame including a first leg unit and a second leg unit, the
first and second leg units being arranged to move relative to one another between
30 folded and unfolded positions,
a leg spreader coupled to the leg units and arranged to spread the leg
units away from one another to the unfolded position, and

a leg brace coupled to the leg units and arranged to bias the leg units toward one another to stiffen the frame in response to spreading of the leg units away from one another to the unfolded position by the leg spreader.

8. The ladder of claim 7, wherein the leg brace is X-shaped.

5 9. The ladder of claim 7, wherein each leg unit includes a pair of legs and the leg brace includes a flexible tether coupled to each leg.

10 10. The ladder of claim 7, wherein each leg unit includes a pair of legs, the leg brace includes a first cable including an end portion coupled to each leg of the first leg unit, a second cable including an end portion coupled to each leg of the second leg unit, and a cable connector coupled to a middle portion of each cable.

11. The ladder of claim 10, wherein the cable connector includes a sleeve, the middle portion of each cable extends through the sleeve, and the sleeve is deformed to grip the middle portion of each cable.

15 12. The ladder of claim 10, wherein each end portion extends through an aperture formed in the leg to which the end portion is coupled and the leg brace includes a blocker coupled to each end portion to block withdrawal thereof from the aperture through which the end portion extends when the leg units are pivoted to assume the unfolded position.

20 13. The ladder of claim 7, wherein each leg unit includes a pair of legs and the leg spreader includes an overcenter linkage coupled to one of the legs of each leg unit to lock the leg units in the unfolded position.

25 14. The ladder of claim 7, wherein the leg spreader includes a step coupled to the first leg unit for pivotable movement and a link coupled to the step and the second leg unit to cause relative pivotable movement of the leg units upon pivotable movement of the step.

30 15. A ladder comprising
a foldable frame including a first leg unit and a second leg unit, the first and second leg units being arranged for pivotable movement relative to one another between folded and unfolded positions, each leg unit including a pair of legs,
a leg spreader coupled to the leg units and arranged to pivot the leg units away from one another to the unfolded position, and

an X-shaped leg brace including a cable coupled to each leg of the leg units and arranged to be tensioned to bias each leg toward a central portion of the leg brace to stiffen the frame in response to pivotable movement of the leg units away from one another to the unfolded position by the leg spreader.

5 16. The ladder of claim 15, wherein the leg brace is positioned lower than the leg spreader.

10 17. The ladder of claim 15, wherein the leg brace includes a first cable coupled to the legs of the first leg unit, a second cable coupled to the legs of the second leg unit, and a sleeve that surrounds and is crimped to a middle portion of each cable.

18. The ladder of claim 15, wherein the cables are flexible to allow folding of the leg brace upon relative movement of the leg units from the unfolded position to the folded position.

15 19. A ladder comprising
a frame including a first leg unit and a second leg unit, each leg unit including a pair of legs, and
an X-shaped leg brace including a cable coupled to each leg of the leg units.

20 20. The ladder of claim 19, wherein the leg brace includes a first cable including an end portion coupled to each leg of the first leg unit, a second cable including an end portion coupled to each leg of the second leg unit, and a cable connector coupled to a middle portion of each of the first and second cables.

25 21. The ladder of claim 20, wherein the cable connector includes a sleeve, the middle portion of each of the first and second cables extends through the sleeve, and the sleeve is deformed to grip the middle portion of each of the first and second cables.

22. The ladder of claim 20, further comprising a leg spreader arranged to spread the leg units away from one another to the unfolded position to tension each of the first and second cables.

23. A ladder comprising

a foldable frame including a first leg unit and a second leg unit, the first and second leg units being arranged to move relative to one another between folded and unfolded positions,

5 a leg spreader coupled to the leg units and moveable to an expanded position to spread the leg units away from one another to the unfolded position, and

means for biasing the leg units toward one another to stiffen the frame in response to spreading of the leg units away from one another to the unfolded position by the spreading means.

10